



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/810,137	03/26/2004	Hari Nair	GENSP040C1	8842
22434	7590	04/22/2005	EXAMINER	
BEYER WEAVER & THOMAS LLP P.O. BOX 70250 OAKLAND, CA 94612-0250			CUNNINGHAM, GREGORY F	
			ART UNIT	PAPER NUMBER

2676

DATE MAILED: 04/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/810,137	NAIR ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Gregory F. Cunningham	2676	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 21 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-20 is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/30/2004</u> . | 6) <input checked="" type="checkbox"/> Other: <u>See Continuation Sheet</u> .           |

Continuation of Attachment(s) 6). Other: Reasons for allowable subject matter.

Art Unit: 2676

### **DETAILED ACTION**

1. This action is responsive to communications of application received 3/26/2004.
2. The disposition of the claims is as follows: claims 1 - 21 are pending in the application. Claims 1, 11 and 21 are independent claims.
3. The group and/or Art Unit location of your application has changed. To aid in the correlation of any papers for this application, all further correspondence should be directed to Group Art Unit 2676 (effective 4/05). Please be sure to use the most current art unit number on all correspondence to help us route your case and respond to you in a timely fashion.
4. When making claim amendments, the applicant is encouraged to consider the references in their entireties, including those portions that have not been cited by the examiner and their equivalents as they may most broadly and appropriately apply to any particular anticipated claim amendments.
5. Referenced page and paragraph numbers of the applicant's application referenced to herein are from EAST, not eDAN or Palm. Page and paragraph numbers of EAST, eDAN and Palm are not congruent with one another.

### ***Election/Restrictions***

6. Restriction to one of the following inventions is required under 35 U.S.C. 121:  

Group I	Claims 1-20, drawn to chroma correction, classified in class 345, subclass 589, 590; 348, subclass 348/253-258, 565-568, 645-652, 663, 667, 671-674, 686-689.ccls. 358/519.ccls. 382/167-169, 274.ccls.
---------	---

Art Unit: 2676

Group II      Claim 21, drawn to controlling a state machine, classified in class 326, subclass 46; class 712, subclass 232.

The inventions are distinct, each from the other because of the following reasons:

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Groups II, restriction for examination purposes as indicated is proper.

During a telephone conversation with Michael J. Ferrazano (Reg. No. 44,105) on April 13, 2005 a provisional election was made without traverse to prosecute the invention of group I, claims 1-20. Applicant in replying to this Office action must make affirmation of this election. Claim 21 is withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

### ***Drawings***

7. The drawings are objected to under 37 CFR 1.83(a) because they fail to show:

Art Unit: 2676

- A. Diagram referencing timing of vertical inactive period (blanking) start corresponding with histogram averaging as described on page 3, paragraph [0063] in the specification.
- B. Luma LUT memory as described on page 3, end of paragraph [0063] in the specification.
- C. Upper, middle and lower bands are not shown in Figures 4 through 6 on pages 7 and 8 of specification.

Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

- 8. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: even numbered blocks 200 through 220 as described on page 10 in the specification. Corrected drawing sheets

Art Unit: 2676

in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

9. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description:

A. In Figure 1, a through c, B<sub>A</sub> through B<sub>C</sub>, P1 through P3, R1, R2, Q1, Q2, and two instances of 255.

B. In Figure 7, A through F, P through S, Y1 and Y2.

C. Also the caption below Figure 7 regarding "Snapping" is not discussed in the specification with respect to Figure 7, merely only with respect to Figure 3.

Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not

Art Unit: 2676

accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

*Specification*

10. The disclosure is objected to because of the following informalities on page 10 of specification:

A. In line 5, “luma signal. The state machine 202 controls a creation of histogram **black** 204, a” should read as:

‘luma signal. The state machine 202 controls a creation of histogram **block** 204, a’

B. In line 6, “histogram average 206, template weight calculator 208, a template transfer function **black**” should read as:

‘histogram average 206, template weight calculator 208, a template transfer function **block**’

Appropriate correction is required.

C. (Examiner’s note: On page 2, paragraph [0041], one would expect a maximum and minimum to be separated apart from each other more than a single percentage value; ‘99%’.)

*Allowable Subject Matter*

11. Claims 1-20 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Applicant's independent claims 1 and 11 stand novel over the related prior art. For instance, in the related art of Zhao et al. (U.S. Patent Number 6,181,321 B1), it can be seen that the color component represented by the histograms is intensified after processing. That is, the



Art Unit: 2676

center of the intensity distribution for the color component is shifted from a low intensity level to a mid-level value. Color cast can be removed by strengthening the weak color components, as well as by weakening the strong color components. In addition, other than the very darkest and brightest pixels, contrast is enhanced in the image. That is, the band of intensities in the original image from  $x_{sub.0}$  to  $x_{sub.1}$  is mapped to the interval from 0 to 255. Because information is mapped to a wider range of intensity levels, contrast within that region is enhanced.

Then consider the related art of Kuwata et al. (U.S. Patent Number 6,151,410), where image processing apparatus comprises at least a picture-element count-distribution detecting means for detecting a picture-element-count distribution of each color component, an analogy-degree judging means for judging the degree of analogy among picture-element-count distributions of color components, an offset correcting means for identifying slippages among color components from the picture-element-count distributions in order to make the color components uniform, a contrast correcting means for identifying slippages in degree of contrast among color components from the picture-element-count distributions in order to make the contrasts of the color components uniform and a brightness correcting means for identifying slippages in brightness among color components from the picture-element-count distributions in order to make the brightness amounts of the color components uniform.

However both Zhao and Kuwata when compared to the instant invention by Nair et al., do not employ a configuration for adaptive color contrast of an image displayed on a display device, comprising: separating input data into luma and chroma components, if necessary; collecting luma distribution data; analyzing the luma distribution data; generating appropriate contrast control response based upon the analyzed luma distribution data; modifying the

Art Unit: 2676

incoming luma component based upon the contrast control response; analyzing the modified luma component; and generating a non-linear chroma correction factor based upon the analyzed modified luma component, as claimed in independent claims 1 and 11.

Therefore as claimed by the combined elements of independent claims 1 and 11, the cited references and prior art of record lack separately and in combination the elements of said claims. Furthermore since claims 2-10 and 12-20 depend from allowable independent claims 1 and 11, respectively, these dependent claims are therefore also allowed.

### ***Conclusion***

12. This application is in condition for allowance except for the following formal matters:  
Details of which are given supra, under election/restriction, drawings and specification.  
Prosecution on the merits is closed in accordance with the practice under *Ex parte* Quayle, 1935 C.D. 11, 453 O.G. 213:

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

### ***Responses***

13. Responses to this action should be mailed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231.

Art Unit: 2676

*Inquiries*

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory F. Cunningham whose telephone number is (571) 272-7784. The examiner can normally be reached on Mon. - Thurs. 7:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella can be reached on (571) 272-7778. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Gregory F. Cunningham  
Examiner  
Art Unit 2676

gfc

4/14/2005



MATTHEW C. BELLA  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600